

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting at least one of an output voltage value and a command value of the inverter as a detection value[.,,]; and

controlling at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value.

2. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting at least one of an output voltage value and a command value of the inverter as a detection value $[[,]]_i$ and

controlling at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and command value of the inverter does not exceed a predetermined value, taking precedence over suppression of the rotational speed variations.

3. (Previously Presented) A motor control method as set forth in claim 1 or claim 2, wherein

the detection value is a peak value of one of the output voltage value of the inverter and the command value.

4. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

decreasing an amplitude of an output torque variation of the motor[[]]; and

controlling at least one of voltage and current of the inverter so that at least one of the output voltage value and the command value of the inverter does not exceed a predetermined value.

5. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting a current of the inverter using current detection section as a current detection value[[]]; and

controlling at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed a current detection extent.

6. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting a current of the inverter as a current detection value using a current detection section for driving the motor[.]; and

controlling at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed a current detection extent, for driving the motor.

7. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

decreasing an amplitude of an output torque variation of the motor[[,]]; and
controlling at least one of voltage and current of the inverter so as not to exceed a current detection extent.

8. (Currently Amended) A motor control method as set forth in one of claims 5-7, wherein

the output current of the inverter is indirectly detected by detecting an input current of the inverter using the current detection section with at least one of the voltage and the current of the inverter being controlled so that a negative peak value of an input current of the inverter ~~in negative side~~ does not exceed the predetermined value.

9. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the method comprising the steps of:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting or estimating load[[,]]; and

not suppressing rotational speed variations of the motor in correspondence with the load being smaller than a predetermined value.

10. (Previously Presented) A motor control method as set forth in claim 9, wherein

the load is detected or estimated by an average current.

11. (Currently Amended) A motor control method for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress ∇ rotational speed variations of the motor which drives a periodic load, wherein a converter is provided which can control a direct current voltage supplied to the inverter, the method comprising the steps of:

applying an alternating current power source to the converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

detecting at least one of an output voltage value and a command value of the inverter as a detection value[[,]]; and

controlling at least one of voltage and the current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed ~~the~~ a predetermined value.

12. (Previously Presented) A motor control method as set forth in claim 11, wherein
the direct current voltage supplied to the inverter is controlled based upon the
detection value.

13. (Currently Amended) A motor control apparatus for controlling at least one of
voltage and current applied to a motor from an inverter so as to suppress rotational speed
variations of the motor which drives a periodic load, the apparatus comprising:

applying an alternating current power source to a converter to obtain a direct current
power source;

converting the direct current power source into a converted alternating current power
source using the inverter;

supplying the converted alternating current power source from the inverter to the
motor;

a detection section for detecting at least one of an output voltage value and a
command value of the inverter as a detection value $[[,]]$; and

an inverter control section for controlling at least one of voltage and current of the
inverter based upon the detection value so that one of the output voltage value and the
command value of the inverter does not exceed a predetermined value.

14. (Currently Amended) A motor control apparatus for controlling at least one of
voltage and current applied to a motor from an inverter for varying motor output torque so as
to suppress rotational speed variations of the motor which drives a periodic load, the
apparatus comprising:

applying an alternating current power source to a converter to obtain a direct current power source;

converting the direct current power source into a converted alternating current power source using the inverter;

supplying the converted alternating current power source from the inverter to the motor;

a detection section for detecting at least one of an output voltage value and a command value of the inverter as a detection value[[],]; and

an inverter control section for controlling at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value, taking precedence over suppression of rotational speed variations.

15. (Previously Presented) A motor control apparatus as set forth in claim 13 or claim 14, wherein

the detection value is a peak value of one of the output voltage value of the inverter or the command value.

16. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current

power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a section for decreasing an amplitude of an output torque variation of the motor[[],];and

an inverter control section for controlling at least one of voltage and current of the inverter so that one of ~~the~~ an output voltage value and ~~the~~ a command value of the inverter does not exceed a predetermined value.

17. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter so as to suppress rotational speed variations of the motor which drives a periodic load, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a current detection section for detecting the current of the inverter as a current detection value[[],]; and

an inverter control section for controlling at least one of voltage and the current of the inverter based upon the current detection value so as not to exceed a current detection extent.

18. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a current detection section for detecting as a current detection value at least one of an input current and an output current of the inverter, for driving the motor[[,]]; and

an inverter control section for controlling at least one of voltage and current of the inverter based upon the current detection value so as not to exceed a current detection extent, for driving the motor.

19. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a section for decreasing an amplitude of an output torque variation of the motor[[,]]; and

an inverter control section for controlling at least one of voltage and current of the inverter so as not to exceed a current detection extent.

20. (Currently Amended) A motor control apparatus as set forth in one of claims 17-19, wherein

the current detection section indirectly detects the output current of the inverter by detecting the input current of the inverter, and wherein the inverter control section controls at least one of voltage and current of the inverter so that a negative peak value of the input current of the inverter ~~in negative side~~ does not exceed a predetermined value.

21. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a load detection section for detecting or estimating load $[[,]]$; and

an inverter control section for not suppressing rotational speed variations of the motor in correspondence with the load being smaller than a predetermined value.

22. (Previously Presented) A motor control apparatus as set forth in claim 21, wherein

the load detection section detects or estimates load by an average current.

23. (Currently Amended) A motor control apparatus for controlling at least one of voltage and current applied to a motor from an inverter for varying motor output torque so as to suppress rotational speed variations of the motor which drives a periodic load, wherein a converter is provided which can control a direct current voltage supplied to the inverter, the apparatus comprising:

a converter converting an alternating current power source to a direct current power source, the direct current power source being converted into a converted alternating current power source using the inverter, and the converted alternating current power source being supplied from the inverter to the motor;

a detection section for detecting at least one of output voltage value and a command value of the inverter as a detection value[[,]]; and

an inverter control section for controlling at least one of voltage and current of the inverter based upon the detection value so that one of the output voltage value and the command value of the inverter does not exceed a predetermined value.

24. (Previously Presented) A motor control apparatus as set forth in claim 23, further comprising

a direct current voltage control section for controlling the direct current voltage supplied to the inverter based upon the detection value.